

### **REMARKS**

Claims 1-31 are pending in this application. Claims 8, 10, 12, 14, 18, 21, 23, 24, 25 and 27 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections while Claims 28-31 have been newly added in accordance with current Office policy, to further and alternatively define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

Claims 4, 5, 6, 11, 15, 16 and 21 have been conditionally allowed if rewritten in independent form to include all limitations of their respective base claims 1 and 13. The Examiner's indication of allowability of these claims is noted with appreciation. For purposes of expedition, claims 28-31 have been newly added to capture the subject matter of the allowed claims 4, 5, 6, 11, 15, 16 and 21, but depend upon base claim 27. As a result, claims 28-31 should also be deemed allowable. As for claims 4, 5, 6, 11, 15, 16 and 21, forbearance is respectfully requested pending Applicants' traversal of the outstanding rejection of parent claims 1 and 13.

Claims 23-24 and 27 have been rejected under 35 U.S.C. §102(e) as being anticipated by Taenzer et al., U.S. Patent No. 6,603,860 for reasons stated on pages 3-4 of the Office Action (Paper No. 5). Specifically, in rejecting Applicants' base claim 23, the Examiner asserts that Taenzer '860 discloses, on FIG. 1A; column 3, line 53 extending to column 4, line 18, an apparatus comprising:

a wearing garment including the clothing worn by a user and a conductive fiber (20), namely essential substance (20) laying over at the user's shoulder, forming an induction loop; and  
an activator unit (18) arranged to establish electrical conduction, via the induction loop, and to serve as an interface between the garment and at least one portable electronic device (24)."

Similarly, in rejecting Applicants' base claim 27, the Examiner asserts that Taenzer '860 discloses, on FIG. 1A and FIG. 1B; column 3, line 53 extending to column 4, line 18, an apparatus comprising:

an inductive coil formed by a conductive fiber (20) for coupling a hearing device to a wearing garment which includes the clothing worn by a user and the conductive fiber (20) forming an induction loop;  
a speaker (10) for conveying a message from a portable electronic device (24) to a hearing device (12) of a user; and  
an activator unit (18) arranged to establish a connection the portable electric device and the induction loop."

However, these assertions are factually incorrect. Applicants submit that the features of Applicants' base claims 23 and 27 are not disclosed or suggested by Taenzer '860. Therefore, Applicants traverse the rejection and respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

Both Applicants' base claims 23 and 27, as amended, are directed to an article of clothing with a garment (200) having a conductive fiber (220) integrated therein for forming an induction loop, as shown in FIG. 3, for example. An activator unit (240) is then arranged to establish electrical conduction, via the induction loop, and to serve as an interface between the garment and the portable electronic device. As expressly defined in each of Applicants' base claims 23 and 27, the conductive fiber (220) is integrated as part of the garment or smart clothing (200) to form an induction loop in order to advantageously enable hearing impaired persons to conveniently and comfortably use portable electronic devices such as mobile phones and similar electronic devices more efficiently with minimal radio interference.

In contrast to Applicants' claims 23 and 27, Taenzer '860 discloses nothing more than a variation of Applicants' earlier work product, as shown in FIG. 1 and FIG. 2, in which a loopset 20 including an inductive wire 22 and 24 is worn around

the neck of a user or around the body like a belt. Such loopset 20, as described on page 9, lines 5-10 of Applicants' original specification, can be cumbersome for everyday usage.

Specifically, Taenzer '860 discloses an inventive test system, as shown in FIG. 2A and FIG. 2B, used to monitor, quantify and verify the performance of electromagnetic audio systems both with and without the presence of the transducer assembly in a user. As a result, the audiologist or tester can either perform a listening check of the magnetic hearing system or use the CPU 60 of the acoustic hearing aid testing systems to quantify and monitor the performance of the electromagnetic audio system being tested.

As shown in FIG. 2A and FIG. 2B, the test system, known as an electroacoustic hearing aid test analyzer, includes a test box 80 having an acoustic chamber 90 for receiving the device to be tested, a CPU 60 for performing the tests, a calibrated instrument microphone 65, a keyboard or control panel 50 for selecting and/or programming the CPU tests, a display 70 and a printer 75 for providing an output of the tested device.

However, the underlying electromagnetic audio system to be tested is a system shown in FIG. 1A-FIG. 1B, in which inductive coils 20 are used in the same manner as described in Applicants' earlier work product, namely a loopset coil that must be worn around the neck of a user or around the body like a belt.

Specifically, as shown in FIG. 1A, and described on column 3, lines 42-47 of Taenzer '860,

"The coils that produce the magnetic field are characteristically "remote" from the transducer assembly such that the coils are not connected to the transducer assembly by tangible means. The coil

assembly may be worn in the ear canal or on a portion of the body which may be hidden beneath clothing."

As described by Taenzer '860, the coil or loop set (20) as shown in FIG. 1A-FIG. 1B, is a separate and independent loopset that must be worn on the body and may be **hidden beneath clothing**. In contrast to the Examiner's assertions, Taezer '860 does **not** disclose or suggest the use of conductive fibers integrated into a garment as expressly defined in Applicants' base claims 23 and 27.

The rule under 35 U.S.C. §102 is well settled that anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. In re Paulsen, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Those elements must either be inherent or disclosed expressly and must be arranged as in the claim. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989); Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 7 USPQ2d 1057 (Fed. Cir. 1988); Verdegall Bros., Inc. v. Union Oil Co., 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). The corollary of that rule is that absence from the reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 USPQ2d 81 (Fed. Cir. 1986).

The burden of establishing a basis for denying patentability of a claimed invention rests upon the Examiner. The limitations required by the claims cannot be ignored. See In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). All claim limitations, including those which are functional, must be considered. See In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981). Hence, all words in a claim must be considered in deciding the patentability of that claim against the prior art.

Each word in a claim must be given its proper meaning, as construed by a person skilled in the art. Where required to determine the scope of a recited term, the disclosure may be used. See In re Barr, 444 F.2d 588, 170 USPQ 330 (CCPA 1971).

In the present situation, Taezer '860 fails to disclose and suggest key features of Applicants' base claims 23 and 27. Therefore, Applicants respectfully request that the rejection of claims 23-24 and 27 be withdrawn.

Dependent claims 25-26 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Taenzer et al., U.S. Patent No. 6,603,860 for reasons stated on pages 4-5 of the Office Action (Paper No. 5). Since the rejection is predicated upon the correctness of the rejection of Applicants' base claim 23, Applicants respectfully traverse this rejection, primarily for the same reasons discussed against the rejection of Applicants' base claim 23.

Lastly, claims 1-3, 7-10, 12-14, 17-20 and 22 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Taenzer et al., U.S. Patent No. 6,603,860, as modified to incorporate Peterson, U.S. Publication No. 2002/0084990 for reasons stated on pages 6-7 of the Office Action (Paper No. 5). Specifically, the Examiner has expressly admitted that Taenzer '086 does **not** disclose that the electrically conductive fibers (20) are integrated into a garment. However, the Examiner cites section [0025] of Peterson '990 for allegedly disclosing that "an electrical device worn by a user can be integrated into a garment worn by the user for avoidance of disadvantages such as being awkward, getting in the way of the user" in order to support an assertion that "it would have been obvious ... to apply Peterson teaching by implementing the electrical fibers (20) to be integrated into a

garment worn by a user (16) for avoidance of disadvantages such as being awkward, getting in the way of the user.

This rejection is respectfully traversed, however. Applicants respectfully submit that features of Applicants' claims 1-3, 7-10, 12-14, 17-20 and 22 are **not** disclosed or suggested by Taenzer et al., U.S. Patent No. 6,603,860, and Peterson, U.S. Publication No. 2002/0084990, whether taken individually or in combination with any other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

Base claim 1 defines an article of functional clothing, comprising:

a garment;  
**electrically conductive fibers integrated into the garment in a predetermined pattern** to form an induction loop; and  
an activator unit arranged at a predetermined location on the induction loop to establish electrical connection and activate the induction loop, and to provide an interface to at least one portable electronic device.

Alternatively base claim 13 defines a process of fabricating smart clothing, comprising:

**integrating electrically conductive fibers into a garment in a predetermined pattern** to form an induction loop; and  
forming an activator unit at a predetermined location on the induction loop to establish electrical connection and activate the induction loop, and to provide an interface to at least one portable electronic device.

As expressly defined in Applicants' base claims 1 and 13, the garment as claimed has a wireless loopset integrated therein using electrically conductive fibers for emanating an electromagnetic field for inductive coupling or capable of a wired or wireless interface which advantageously allows persons with hearing aids to achieve

greater functionality, such as allowing the user to better listen and communicate with others, via mobile devices, with minimal or no radio interference.

In contrast to Applicants' base claims 1 and 13, Taenzer '860, as a primary reference, discloses a conventional electromagnetic audio system, as shown in FIG. 1A and FIG. 1B, in which the coil or loop set (20) is a separate and independent loopset that must be worn on the body and may be **hidden beneath clothing**.

Taenzer '860 does **not** disclose or suggest the use of "conductive fibers integrated into a garment in a predetermined pattern to form an induction loop" as expressly defined in Applicants' base claims 1 and 13.

As a secondary reference, Peterson '990 does **not** remedy the noted deficiencies of Taenzer '860 in order to arrive at Applicants' base claims 1 and 13. This is because Peterson '990 only discloses a wearable computer system, as shown in FIG. 3, in which some computer components, such as earphone 7, monitor 8, and microphone 9, as shown in FIG. 4 and FIG. 5, are all tucked inside the collar 6 of an article of clothing 16.

Like Taenzer '860, Peterson '990 does **not** disclose or suggest the use of "conductive fibers integrated into a garment in a predetermined pattern to form an induction loop" as expressly defined in Applicants' base claims 1 and 13.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. §103, the Examiner must show that the prior art reference (or references when combined) must teach or suggest all the claim limitations, and that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, provided with a reasonable expectation of success.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USQP 494, 496 (CCPA 1970). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." ACS Hospital System, Inc v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references in order to arrive at Applicants' claimed invention. Absent such a showing, the Examiner has improperly used Applicants' disclosure as an instruction book on how to reconstruct to the prior art to arrive at Applicants' claimed invention. Furthermore, any deficiencies in the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". See In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002).

In the present situation, Taenzer et al., U.S. Patent No. 6,603,860, and Peterson, U.S. Publication No. 2002/0084990, fail to disclose and suggest key features of Applicants' claims 1 and 13 and their respective dependents. Therefore, Applicants respectfully request that the rejection of claims 1-3, 7-10, 12-14, 17-20 and 22 be withdrawn.

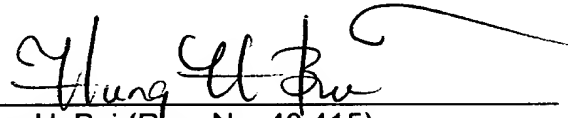
In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 0171.39379X00), and please credit any excess fees to said deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

By

  
Hung H. Bui (Reg. No. 40,415)  
Attorney for Applicant(s)

HHB:btd  
1300 North Seventeenth Street, Suite 1800  
Arlington, Virginia 22209  
Tel.: (703) 312-6600  
Fax: (703) 312-6666